State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Division of Flood Management

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OFFICE REPORT

On

THE INSPECTION OF FLOOD CONTROL STRUCTURES ON THE SACRAMENTO AND SAN JOAQUIN RIVERS AND THEIR TRIBUTARIES

Prepared By The
Flood Operations Branch
FLOOD PROJECT INSPECTION SECTION

State of California
GRAY DAVIS, GOVERNOR
The Resources Agency
MARY D. NICHOLS, Secretary for Resources

Department of Water Resources
Michael J. Spear, Interim Director

DIVISION OF FLOOD MANAGEMENT

Stein Buer ..... Chief, Flood Management Division

Jay S. Punia ..... Chief, Flood Operations Branch

This report was prepared
Under the supervision of

Richard E. Marshall..... Chief, Flood Project Inspection Section

By

Rick Burnett ..... Water Resources Engineering Associate
Richard E. Willoughby, Sr. ..... Water Resources Technician II
Cindy Ungacta ..... Office Assistant

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INTRODUCTION

The flood control system of the Sacramento and San Joaquin Valleys is dependent upon the levee system and many structures built on the tributaries and bypasses. These structures are fixed crest diversion weirs, controllable diversion structures, outfall structures, drop structures, and interior drainage pumping plants. This report reviews the maintenance of these structures.

History of Report

The maintenance effort expended on these structures has been the subject of an annual report dating back to 1959. A report entitled, "Location, Description and Inventory of Miscellaneous Project Structures, Sacramento River Flood Control Project, and American River Flood Control Project", was issued and was followed shortly thereafter by a maintenance status report. Maintenance status reports on flood control structures have since been made on an annual basis.

Responsibility for Maintenance

The flood control structures included herein were constructed as an integral part of the flood control project, by the U.S. Army Corps of Engineers and the State of California. Operation and Maintenance manuals were issued by the constructing authority to the maintaining agency. Maintaining agencies agreed to be responsible for the maintenance of the flood control structures. The State of California makes periodic inspections of the quality of the maintenance performed by the maintaining agencies and reports its findings to those agencies. These inspections are made on behalf of The Reclamation Board by the Flood Project Inspection Section, Flood Operations Branch, Division of Flood Management.

The purpose of the inspection is to identify and report to the constructing authority and the maintaining agency any condition that may diminish the ability of the structure to perform its intended function.

CHAPTER I

FLOOD CONTROL STRUCTURES INSPECTED ON THE SACRAMENTO RIVER AND TRIBUTARIES

2003

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
Maintained by Plumas County

1. **Condition of concrete diversion structure.**

   a. **Good.**

2. **Condition of the gauging house and equipment.**

   a. **Fair. There are still numerous bullet holes in the door.**

3. **Condition of the steel trash racks.**

   a. **Good.**

4. **Condition of debris deflection structure.**

   a. **Good.**

5. **Condition of the revetments.**

   a. **Good.**

6. **Accumulation of trash and debris around structure or in the channel.**

   a. **Minimal amount of debris around the deflection structure.**

7. **Vegetation around the structure or in the channel.**

   a. **None.**

8. **Condition of the conduits.**

   a. **The center conduit was inspected last year and found to be in good condition. However, separation at the joints between the monoliths was noted.**

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
Maintained by Plumas County

9. Condition of the discharge structure.

a. The structure is in good condition.

10. Comments:

a. Good maintenance.

NOTE: Routinely, one of the three diversion structure conduits is jointly inspected each year with the Corps of Engineers and Plumas County.

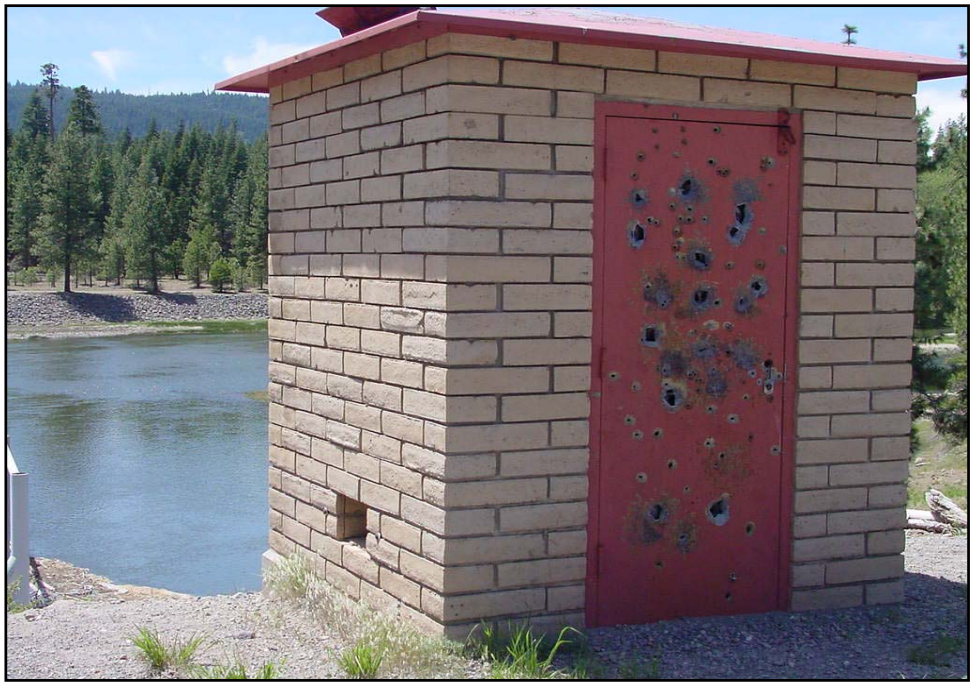
NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
Maintained by Plumas County

The upstream side of the diversion structure at the inlet.

Looking at the boom and inlet from the top of the dam.

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
Maintained by Plumas County

Looking at the outlet works from the top of the dam.



The gauging house door is severely damaged, resulting in no access.

NORTH FORK FEATHER RIVER DIVERSION CHANNEL
DROP STRUCTURES 1 through 7
Maintained by Plumas County

1. **Condition of grouted rock revetment drop structures.**

   a. **Good.**

2. **Condition of channel banks upstream and downstream of the drop structures.**

   a. **Good.**

3. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Minimal.**

4. **Vegetation around the structures, the channel banks or in the channel.**

   a. **Minimal.**

5. **Comments:**

   a. **Good maintenance.**

NORTH FORK FEATHER RIVER DIVERSION CHANNEL
DROP STRUCTURES 1 Through 7
Maintained by Plumas County

View of Drop Structure No. 1 from the left bank.
Typical of all drop structures.

Looking north from the Hwy 36 bridge
at drop structures 3 through 7.

CLOVER CREEK DIVERSION STRUCTURE

Maintained by Lake County Flood Control and Water Conservation District

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of the diversion structure and wing walls.**

   a. **Good.**

3. **Condition of the bulkhead.**

   a. **Good.**

4. **Condition of the control gates and mechanism.**

   a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Gravel has accumulated and fills the channel to the top of the weir, this prevents water ponding upstream as it was designed to do.**

   b. **Some gravel has accumulated around the outlet side of the structure.**

6. **Vegetation around the structures or in the channel.**

   a. **A pilot channel has been cleared upstream of the structure.**

   b. **There is dense vegetation in the creek channel, 100 feet downstream of the structure.**

7. **Comments:**

   a. **Remove accumulated gravel upstream of weir.**

   b. **Good maintenance.**

CLOVER CREEK DIVERSION STRUCTURE
Maintained by Lake County Flood Control and Water Conservation District

Looking at the slide gates at the intake of the structure.

Looking at the outlet.

CLOVER CREEK DIVERSION STRUCTURE
Maintained by Lake County Flood Control and Water Conservation District

Water flows over the concrete weir. The weir is partially ineffective due to gravel accumulation upstream.

MIDDLE CREEK PUMPING PLANT

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure and switchboard house.**

   a. **Poor. The separation between the top of the surge box and the structure appears to have an eight and one half inch side displacement. The surge box has settled twelve inches since 1962 and is 7.6 feet below the top of the structure. There is approximately a two inch deflection. There have been no changes since last reported.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of electrical equipment.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of the trash racks.**

   a. **Good.**

6. **Condition of log boom.**

   a. **Good.**

7. **Condition of hydrographic facilities.**

   a. **Good.**

8. **Accumulation of trash or debris in the sump.**

   a. **None.**

MIDDLE CREEK PUMPING PLANT
Maintained by State of California
Sutter Maintenance Yard

9. Vegetation in sump.

a. Minimal.

10. Comments:

a. DWR's Sutter Maintenance Yard performs routine maintenance year round and tests the equipment prior to each flood season.

MIDDLE CREEK PUMPING PLANT
Maintained by State of California
Sutter Maintenance Yard

Looking north at the pumping plant from the left bank levee.

Looking upstream at the intake side of the pumping plant.

HIGHLAND CANAL DIVERSI0N WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of drainage structure.**

   a. **Good.**

3. **Condition of the concrete abutments and wing walls.**

   a. **There is a displacement between both wing walls and the structure, 2 inches on left wing wall and two and one half inches on the right wing wall.**
   Displacement has been stable for at least 5 years.

4. **Condition of the revetment.**

   a. **Good.**

5. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

6. **Vegetation around the structure or in the channel.**

   a. **Minimal tule growth in discharge channel.**

7. **Comments:**

   a. **Good maintenance.**

HIGHLAND CANAL DIVERSI0N WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

Looking at the concrete weir and diversion pipe intake.

Looking at the outlet channel and the diversion pipes.

BIG CHICO CREEK
DIVERSION STRUCTURE
Maintained by Butte County

1. Condition of concrete control structure.

    a. Good.

2. Condition of bulkheads.

    a. Good.

3. Condition of gate controls and mechanisms.

    a. Good.

4. Condition of revetment.

    a. Good.

5. Accumulation of trash and debris around the structure in the channel.

    a. None.

6. Vegetation around structure and in the channel.

    a. None

7. Comments:

    a. Butte County tests the gate controls and mechanisms prior to flood season.

    b. Contact DWR Inspector prior to gate test.

    c. Good maintenance.

BIG CHICO CREEK
DIVERSION STRUCTURE
Maintained by Butte County

Looking at the upstream side of the structure.

Looking at the discharge side of the structure.

LINDO CHANNEL DIVERSION WEIR
Maintained by Butte County

1. **Condition of concrete weir structure and stilling basin, and velocity dissipaters.**

    a. **There are minor joint separations on the north and south ends of the weir where it contacts the abutments.**

    b. **There is minor damage to several velocity dissipaters and severe damage to one.**

2. **Condition of concrete abutments and wing walls.**

    a. **Good.**

3. **Condition of revetment.**

    a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

    a. **None.**

5. **Vegetation around structure or in the channel.**

    a. **Minimal.**

6. **Condition of gauging house and equipment.**

    a. **Fair.**

7. **Comments:**

    a. **Repair the severely damaged velocity dissipater.**

    b. **Remove vegetation from channel.**

    c. **Fair maintenance.**

LINDO CHANNEL DIVERSION WEIR
Maintained by Butte County

Upstream side of the structure from the left bank.

The velocity dissipaters on the downstream side of structure from the left bank.

LINDO CHANNEL DIVERSION WEIR
Maintained by Butte County

View of severely damaged velocity dissipater.

LINDO CHANNEL CONTROL STRUCTURE
Maintained by Butte County

1. **Conditions of concrete control structure.**

   a. **Good.**

2. **Condition of bulkheads.**

   a. **There is a one-half inch separation in the joint between the south end bulkhead and the structure. This joint separation is stable.**

3. **Condition of control gates and mechanisms.**

   a. **Good.**

4. **Condition of revetment.**

   a. **Poor. The downstream rock and gunite skirt is severely damaged.**

5. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

6. **Vegetation around the control structure or in the channel.**

   a. **None.**

7. **Comments:**

   a. **Butte Co. will test the control gates prior to flood season.**

   b. **Repair the rock and gunite skirt downstream of structure.**

   c. **Fair maintenance.**

LINDO CHANNEL CONTROL STRUCTURE
Maintained by Butte County

Downstream at intake side of structure.

Upstream at discharge side of structure.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES

Maintained by State of California
Sutter Maintenance Yard

1. Condition of concrete control structure.

a. Fair. The base at the downstream side of the control structure is beginning to undermine.

2. Condition of bulkheads and wing walls of the control structure.

a. Previously reported separations and displacements are stable.

3. Condition of concrete weir, stilling basin, and velocity dissipaters.

a. Minor cracks in the weir and minor spalling of concrete on the weir invert.

4. Condition of concrete bulkheads of the weir.

a. Good.

5. Condition of bulkheads and fill between the control structure and the weir.

a. Good

6. Condition of the revetments.

a. Poor. The revetment/gunite apron on the downstream end of the control structure is severely damaged.

7. Condition of the gauging station and equipment.

a. Good.

9. Accumulation of trash and debris around the structures or in the channel.

a. None.

10. Vegetation around the control structure, the weir, or in the channel.

a. Minimal.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES

Maintained by State of California
Sutter Maintenance Yard

11. Comments:

a. Repair the control structure base (downstream side) as soon as possible.

b. Continue to monitor joint separation between the control structure and the abutments and repair as needed.

c. Remove driftwood and cobbles from dissipaters.

d. Fair maintenance.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES

Maintained by State of California
Sutter Maintenance Yard

View of the upstream side of the control structure and weir.

Looking at the upstream side of the control structure.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES

Maintained by State of California
Sutter Maintenance Yard

Looking at the downstream side of the control structure.
Repairs have not been made to prevent undermining of the structure.

Looking at the weir and velocity dissipaters.

MOULTON WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of concrete abutment and wing walls.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good maintenance.**

MOULTON WEIR
Maintained by State of California
Sutter Maintenance Yard

Looking north at the weir and stilling basin from the left abutment.

COLUSA WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**
   (Note: Bridge across bypass is not part of the weir structure)

   a. **Good.**

2. **Condition of concrete abutment and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good.**

COLUSA WEIR

Maintained by State of California
Sutter Maintenance Yard

Looking at the upstream side of weir from the north levee.

TISDALE WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**
   (Note: Bridge across bypass is not part of the weir structure)

   a. **Good.**

2. **Condition of concrete abutment and wing wall.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation around structure or in the channel.**

   a. **Minimal.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good maintenance.**

TISDALE WEIR

Maintained by State of California
Sutter Maintenance Yard

Looking at the downstream side of the weir from the north end.

BUTTE SLOUGH OUTFALL STRUCTURE

Maintained by State of California
Sutter Maintenance

1. **Condition of walkway and supports.**

   a. **Good.**

2. **Condition of pipes.**

   a. **Visual inspection prohibited.**

3. **Condition of the control gates, mechanisms and flap gates.**

   a. **Visual inspection prohibited.**

4. **Condition of log boom.**

   a. **The log boom was not present at the time of the inspection.**

5. **Condition of gauging house and equipment.**

   a. **Good.**

6. **Condition of revetment.**

   a. **Good.**

7. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

8. **Comments:**

   a. **Inspection was limited due to high water. Sutter Maintenance Yard reports that all equipment is in good working order.**

   b. **Good Maintenance.**

BUTTE SLOUGH OUTFALL STRUCTURE

Maintained by State of California
Sutter Maintenance

Looking at the intake side of the structure.

Looking at the outlet channel of the structure.

BUTTE SLOUGH DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of the corrugated metal pipe (CMP) drainage structure.**

   a. **Good.**

2. **Condition of the control gate, mechanisms, and flap gates.**

   a. **Could not properly inspect due to excessive vegetation.**

3. **Condition of the revetment.**

   a. **Visual inspection was limited due to high water.**

4. **Accumulation of trash and debris around the inlet, in the pipe or in the channel.**

   a. **Moderate.**

5. **Vegetation around the structure or in the channel.**

   a. **Heavy vegetation around structure. Growth is so dense that the discharge side of the structure cannot be seen.**

6. **Comments:**

   a. **Remove vegetation from inlet and discharge ends of structure. If growth is not removed, the drainage structure could become non functional.**

   b. **No maintenance.**

   c. **This structure is rated poor.**

BUTTE SLOUGH DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

Looking at the inlet (CMP stand pipe) in the center of picture, obscured by heavy growth.

Looking at the Sacramento River in the general direction of the outlet. The outlet would be on the left bank (foreground).

SUTTER BYPASS PUMPING PLANT NO. 1

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gate.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of trash rack.**

   a. **Good.**

7. **Condition of revetment.**

   a. **Good.**

8. **Accumulation of trash and debris in the sump.**

   a. **None.**

9. **Vegetation in the inlet channel.**

   a. **None.**

10. **Comments:**

    a. **Tests of pumps, motors and electrical equipment are conducted in October each year.**

    b. **Good maintenance.**

SUTTER BYPASS PUMPING PLANT NO. 1

Maintained by State of California
Sutter Maintenance Yard

Looking at the intake side of the pumping plant.

Looking at the discharge side of the pumping plant.

SUTTER BYPASS PUMPING PLANT NO. 2

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Condition of revetment.**

   a. **Good.**

8. **Accumulation of trash or debris in the sump.**

   a. **None.**

9. **Vegetation in the inlet channel.**

   a. **None.**

10. **Comments:**

    a. **Tests of the pumps, motors, and electrical equipment are conducted in October each year.**

    b. **Good maintenance.**

SUTTER BYPASS PUMPING PLANT NO. 2

Maintained by State of California
Sutter Maintenance Yard

Looking at the pumping plant, sump and trash racks from the intake side.

Looking at the discharge side of the pumping plant.

SUTTER BYPASS PUMPING PLANT NO. 3

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gate, mechanisms and flap gate.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Accumulation of trash or debris in the sump.**

   a. **None.**

8. **Vegetation in the inlet channel.**

   a. **None.**

9. **Comments:**

   a. **Tests of the pumps, motors and electrical equipment are conducted in October each year.**

   b. **Good maintenance.**

SUTTER BYPASS PUMPING PLANT NO. 3

Maintained by State of California
Sutter Maintenance Yard

Looking at the inlet side of the pumping plant.

Looking at the discharge side of the pumping plant.

WADSWORTH CANAL WEIR NO. 4

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of concrete abutments.**

   a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

4. **Vegetation around structure or in the channel.**

   a. **None.**

5. **Comments:**

   a. **Good maintenance.**

WADSWORTH CANAL WEIR NO. 4

Maintained by State of California
Sutter Maintenance Yard

Looking at the upstream side of structure from the left bank levee.

Looking at the downstream side of structure from the left bank levee.

SUTTER BYPASS WEIR NO. 2

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of concrete abutments.**

   a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

4. **Vegetation around structure or in the channel.**

   a. **None.**

5. **Comments:**

   a. **Good maintenance.**

SUTTER BYPASS WEIR NO. 2

Maintained by State of California
Sutter Maintenance Yard

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

NELSON BEND QUARRY ROCK WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of quarry rock weir section.**

   a. **Good.**

2. **Condition of revetments.**

   a. **Good.**

3. **Accumulation of trash and debris around structure or in the channel.**

   a. **Areas of debris exist along the weir and in the channel.**

4. **Vegetation around structure or in the channel.**

   a. **Vegetation is very heavy, with trees, brush and berries growing in the weir section and rock revetments.**

5. **Comments:**

   a. **No clearing done since 1985. The vegetation is extremely dense and could effect the design function of the weir.**

   b. **Poor maintenance.**

   C. **An unauthorized barricade has been installed at each end of Nelson Bend rock weir. The Reclamation Boards' Encroachment Section is investigating.**

NELSON BEND QUARRY ROCK WEIR

Maintained by State of California
Sutter Maintenance Yard

Looking southwest at the growth and debris on the rock weir.

Looking northeast from the southwest end of the weir.

KNIGHTS LANDING OUTFALL STRUCTURE

Maintained By State of California
Sacramento Maintenance Yard

1. **Condition of outfall structure.**

   a. **Good.**

2. **Condition of bulkheads.**

   a. **Fair. The large vertical crack and displacement on the downstream side, left bank, has not changed in several years. The crack is not accessible for measurement, but the overall width is estimated to be one inch.**

   b. **The concrete construction joint between the left bulkhead and the outfall structure, upstream side, passes water when the Sacramento River is at high stage. Passage of water was first noticed in 1980.**

3. **Condition of the pipes.**

   a. **Good.**

4. **Condition of the control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the gauging house and equipment.**

   a. **Good.**

7. **Condition of the log boom.**

   a. **Good**

8. **Condition of fill from bulkheads to levee.**

   a. **Good.**

KNIGHTS LANDING OUTFALL STRUCTURE
Maintained By State of California
Sacramento Maintenance Yard

9. Accumulation of trash and debris around the structure or in the channel.

a. Minimal

10. Comments:

a. Structure is inspected and maintained daily.

b. The seepage through the structure should be monitored during high water stages.

c. Sacramento Maintenance Facility performs a yearly pre-season inspection of the structure and its components before October 15.

d. Good maintenance.

KNIGHTS LANDING OUTFALL STRUCTURE

Maintained By State of California
Sacramento Maintenance Yard

Looking at the upstream side of structure from the left bank.

Looking at the downstream side of the structure from the left bank.

KNIGHTS LANDING OUTFALL STRUCTURE

Maintained By State of California
Sacramento Maintenance Yard

There is a vertical crack and displacement on the downstream side of structure.

FREMONT WEIR

Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir and stilling basin.**

   a. **Some cracks and spalling exist on the weir and in the stilling basin as previously reported.**

2. **Condition of concrete abutment.**

   a. **Good.**

   b. **The crack on the downstream side of the right (west) abutment, and the two cracks on the right abutment at Rattlesnake Island, have not enlarged.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Monitor the cracks and spalling, repair as needed.**

   c. **Remove debris from the stilling basin prior to flood season.**

   c. **Good maintenance.**

FREMONT WEIR
Maintained by State of California
Sacramento Maintenance Yard

Looking south at the weir and stilling basin from the north abutment.

Looking north from the southern abutment.

CACHE CREEK SETTING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

    a. **Good.**

2. **Condition of drainage structure.**

    a. **Good.**

3. **Condition of concrete abutments and wing walls.**

    a. **Good.**

4. **Condition of revetment.**

    a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channels.**

    a. **Moderate debris around the drainage structure.**

6. **Vegetation around the structures or in the channel.**

    a. **None.**

7. **Comments:**

    a. **Remove the accumulated debris around the drainage structure.**

    b. **Good maintenance.**

CACHE CREEK SETTING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

Looking east at the weir and stilling basin.
The weir spills into the Yolo Bypass.

View of the drainage structure located in the southwest corner of the Cache Creek Settling Basin. Note the debris around the intake areas.

CACHE CREEK SETTING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

Looking at the Drainage Structure outlet releasing water into the Yolo Bypass.

SACRAMENTO WEIR

Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir section and stilling basin.**

   a. **Good.**

2. **Condition of concrete bulkheads.**

   a. **Good.**

3. **Condition of the needle boards, batting and boots (hinges).**

   a. **Good.**

4. **Condition of tripping mechanisms.**

   a. **Good.**

5. **Condition of the metal stop logs, cables and clamps used to retain the needle boards.**

   a. **Good.**

6. **Accumulation of trash and debris around the structure or in the channel.**

   a. **There is a minimal amount of trash and debris in the stilling basin and in the channel.**

7. **Vegetation around the structure or in the channel.**

   a. **Minor Vegetation.**

8. **Comments:**

   a. **A final pre-season operational inspection is scheduled for the week of October 1-10 by the Sacramento Maintenance Facility.**

   b. **Remove the growth, trash, and debris from around the structure.**

   c. **Good maintenance.**

SACRAMENTO WEIR
Maintained by State of California
Sacramento Maintenance Yard

Looking at the downstream side of the weir from the north end.

Looking at the downstream side of the weir from the south end.

MAGPIE CREEK PUMPING PLANT
Maintained by City of Sacramento

1. Condition of main pump structure.

a. Good.

2. Condition of abutment and wing walls.

a. Good.

3. Condition of the pumps and motors.

a. Good.

4. Condition of control gates, mechanisms, and flap gates.

a. Good

5. Condition of the electrical equipment.

a. Good.

6. Condition of the trash racks.

a. Good.

7. Accumulation of trash debris in the sump or in the channel.

a. None.

8. Vegetation in the sump or in the inlet channel.

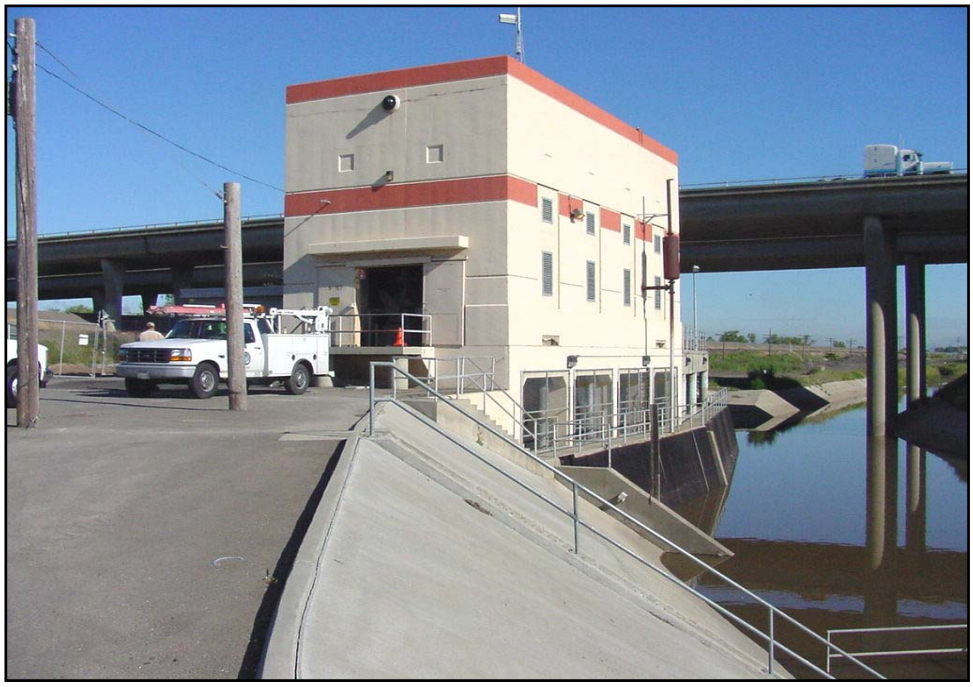
a. None.

9. Comments:

a. Good maintenance.

c. There are weekly, monthly and annual inspections of the pumps. Equipment maintenance was in progress at the time of the inspection.

MAGPIE CREEK PUMPING PLANT
Maintained by City of Sacramento



Pumping plant, sump, and trash racks at the inlet on the landward side from the left bank levee of the Natomas East Main Drain.

Discharge end of structure on the waterward side from the left bank levee of the Natomas East Side Drain.

AMERICAN RIVER PUMPING PLANT NO. 1

Maintained by Sacramento County as
Howe Avenue Storm Drain D-05

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of gate controls, mechanisms and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Accumulation of trash and debris in the sump or around the structure.**

   a. **None.**

8. **Vegetation in the sump or in the inlet channel.**

   a. **None.**

9. **Comments:**

   a. **Inspection and tests of all systems are conducted yearly. Annual maintenance is performed in June and July.**

   b. **Outstanding maintenance.**

AMERICAN RIVER PUMPING PLANT NO. 1
Maintained by Sacramento County as
Howe Avenue Storm Drain D-05

Pumping plant, sump and trash racks at inlet on the landward side of the right bank levee of the American River.

Gate controls and gates at the discharge side of the pumping plant.

INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
Maintained by Sacramento County as
Willhaggin Storm Drain D-43

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **There is a three and five eighth inch deflection in the retaining wall next to the stairway on the west side of structure.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of trash racks.**

   a. **Good.**

7. **Accumulation of trash and debris in the upper and lower sumps.**

   a. **None.**

8. **Vegetation in the upper and lower sumps.**

   a. **Minor growth.**

9. **Comments:**

   a. **Inspections and tests of all systems are conducted yearly. Maintenance is performed in September and October.**

   b. **There has been no measurable change in the three and five eighth inch deflection in the western retaining wall since last reported in 1998.**

   c. **Outstanding maintenance.**

INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
Maintained by Sacramento County as
Willhaggin Storm Drain D-43

Looking at the trash racks on the intake side of the pumping plant.

Looking at the gate controls, flap gates and the outlet channel.

INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
Maintained by Sacramento County as
Willhaggin Storm Drain D-43

Three and five eighth inch deflection in the west retaining wall.

ELK SLOUGH INLET STRUCTURE
Maintained by Reclamation District No. 999

1. **Condition of inlet structure.**

    a. **Good.**

2. **Condition of control gate mechanism.**

    a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

    a. **None.**

4. **Vegetation around the structure.**

    a. **Minor growth around outlet.**

5. **Comments:**

    a. **Monitor and remove growth around outlet as needed.**

    b. **Good maintenance.**

ELK SLOUGH INLET STRUCTURE
Maintained by Reclamation District No. 999

View of the gate control mechanism box.

View of the discharge side into Elk Slough.
The structure is under water.

CHAPTER II

FLOOD CONTROL STRUCTURES INSPECTED ON THE SAN JOAQUIN RIVER AND TRIBUTARIES

2003

MORMON SLOUGH PUMPING PLANT NO. 1

Maintained by San Joaquin County
June 2003

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of control gates, mechanisms and flap gates.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of trash racks.**

   a. **Good.**

6. **Accumulation of trash and debris in the sump.**

   a. **None.**

7. **Vegetation in the sump.**

   a. **None.**

8. **Comments:**

   a. **Good maintenance.**

MORMON SLOUGH PUMPING PLANT NO. 1

Maintained by San Joaquin County
June 2003

Looking at the trash racks and the intake side of the pumping plant.

Looking at the outlet for the pumping plant, screw gate and flood wall.

MORMON SLOUGH PUMPING PLANT NO. 2

Maintained by San Joaquin County
June 2003

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of control gates, mechanisms and flap gates.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of trash racks.**

   a. **Good.**

6. **Accumulation of trash and debris in the sump.**

   a. **None.**

7. **Vegetation in the sump.**

   a. **Minimal.**

8. **Comments:**

   a. **Good maintenance.**

MORMON SLOUGH PUMPING PLANT NO. 2

Maintained by San Joaquin County
June 2003

Looking at the trash racks and the inlet side of the pumping plant.

Looking at the outlet for the pumping plant.

MORMON SLOUGH PUMPING PLANT NO. 3

Maintained by San Joaquin County
June 2003

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of control gates, mechanisms and flap gates.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of trash racks.**

   a. **Good.**

6. **Accumulation of trash and debris in the sump.**

   a. **None.**

7. **Vegetation in the sump.**

   a. **None.**

8. **Comments:**

   a. **Good maintenance.**

MORMON SLOUGH PUMPING PLANT NO. 3

Maintained by San Joaquin County
June 2003

Looking at the trash racks and the inlet side of the pumping plant.

Looking at the outlet for the pumping plant, screw gate and flood wall.

DUCK CREEK DIVERSION
WEIR AND CONTROL STRUCTURE
Maintained by San Joaquin County
June 2003

1. **Condition of concrete control structure.**
   a. **Good.**
2. **Condition of abutments and wing walls.**
   a. **Good.**
3. **Condition of control gate and mechanism.**
   a. **Good.**
4. **Condition of the concrete weir structure.**
   a. **Good.**
5. **Condition of the revetment.**
   a. **Good.**
6. **Accumulation of trash and debris around the structure or in the channel.**
   a. **Good.**
7. **Vegetation around the structure or in the channel.**
   a. **Minimal.**
8. **Comments:**
   a. **Good maintenance.**

DUCK CREEK DIVERSION
WEIR AND CONTROL STRUCTURE
Maintained by San Joaquin County
June 2003

Looking at the inlet side of the control structure.

Looking at the outlet side of the control structure.

DUCK CREEK DIVERSION
WEIR AND CONTROL STRUCTURE
Maintained by San Joaquin County
June 2003

Looking upstream at the diversion weir.

Looking at the weir, stilling basin, right bank abutment and stream gauge.

PARADISE DAM
(No Maintaining Agency)
June 2003

1. **Condition of the concrete rubble dam section.**

   a. **Good.**

2. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

3. **Vegetation around the structure and in the channel.**

   a. **The willow trees along the upstream side of the structure are 12 to 15 feet tall and could alter the proper design function of the dam.**

4. **Comments:**

   a. **Willow trees should be removed.**

   b. **Maintenance responsibilities need to addressed and determined.**

PARADISE DAM
(No Maintaining Agency)
June 2003

Looking at the upstream side of the dam.
Note the willow growth in front of the structure.

Looking at the downstream side of dam.

WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE

Maintained by Reclamation District No. 2096
June 2003

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of the navigation gate structure.**

   a. **Good.**

3. **Condition of the abutments and wing walls.**

   a. **Good, but there is a three-fourths inch separation in the joint between left retainer wall and wing wall. It has remained stable for several years.**

4. **Condition of pumps and motors.**

   a. **Good.**

5. **Condition of flap gates.**

   a. **Good.**

6. **Condition of electrical equipment.**

   a. **Good.**

7. **Condition of the trash rack.**

   a. **Good.**

8. **Condition of the gate hoist mechanism.**

   a. **Good.**

9. **Condition of the revetment.**

   a. **Good.**

WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE
Maintained by Reclamation District No. 2096
June 2003

10. Accumulation of trash and debris around the structure or in the channel.

a. None.

11. Comments:

a. Good maintenance.

WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE

Maintained by Reclamation District No. 2096
June 2003

Looking at the downstream side of the structure.

View of the radial gate. During high water the gate is closed to prevent flooding of Wetherbee Lake island.

GOMES LAKE PUMPING PLANT

Maintained by Turlock Irrigation District
June 2003

1. **Condition of main pump structure.**

   a. **There are several large holes around the bank between the structure and the levee. The holes appear to have been caused by rain runoff and are very deep.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of the switchboard house and the electrical equipment.**

   a. **Good.**

4. **Condition of the control gates, mechanism and flap gates.**

   a. **Good.**

5. **Condition of the trash racks.**

   a. **Good.**

6. **Condition of the gauging house and equipment.**

   a. **Good.**

7. **Condition of the revetment.**

   a. **Good.**

8. **Accumulation of trash and debris around structure or in the channel.**

   a. **Minimal.**

9. **Vegetation around the structure or in the channel.**

   a. **None.**

10. **Comments:**

    a. **It is unclear if the holes in the bank will have an adverse effect on the pumping facility. Monitor and repair as needed.**

GOMES LAKE PUMPING PLANT
Maintained by Turlock Irrigation District
June 2003

Looking at the intake and pumps for the structure.

Looking at the pumping plant outlet.

GOMES LAKE PUMPING PLANT

Maintained by Turlock Irrigation District
June 2003

Looking at one of several large holes in the bank between the structure and the levee.

RECLAMATION DISTRICT NO 2063 PUMPING PLANT

Maintained by Reclamation District No. 2063
June 2003

1. **Condition of main pump structure.**

   a. **Fair.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **It is not clear if the pumps are operational. They do not appear to have been tested or run in some time.**

4. **Condition of control gate, mechanisms and flap gates.**

   a. **Good.**

5. **Condition of the trash racks.**

   a. **The trash racks were not present at the time of the inspection.**

6. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

7. **Vegetation around the structure or in the outlet channel.**

   a. **Moderate growth around the outlet channel.**

8. **Comments:**

   a. **The reclamation district is responsible for testing the pumps prior to flood season.**

   b. **Replace the trash racks.**

   c. **Monitor growth and remove as necessary.**

   d. **Poor maintenance.**

   e. **The district should consider replacement or reconstruction of the pump house, platform and trash racks.**

RECLAMATION DISTRICT NO 2063 PUMPING PLANT

Maintained by Reclamation District No. 2063
June 2003

Looking at the pumping plant intake.

Looking at the two discharge pipes.

BLACK RASCAL CREEK DROP STRUCTURE

Maintained by
Merced Irrigation District for Merced County
June 2003

1. **Condition of concrete drop structure.**

   a. **Good.**

2. **Condition of concrete abutments.**

   a. **Good.**

   b. **Separation of the left bank wall is stable.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **A wild growth fig tree is in the channel upstream of the structure.**

6. **Comments:**

   a. **Remove the fig tree.**

   b. **Good maintenance.**

BLACK RASCAL CREEK DROP STRUCTURE

Maintained by
Merced Irrigation District for Merced County
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

OWENS CREEK SIPHON STRUCTURE

Maintained by
Merced Irrigation District for Merced County
June 2003

1. **Condition of concrete siphon structure.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

   b. **Separation of the left bank wall is stable.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **There is dense tule and weed growth in the channel immediately upstream and downstream of the structure.**

6. **Comments:**

   a. **Remove weeds and tule growth.**

   b. **Fair maintenance.**

OWENS CREEK SIPHON STRUCTURE

Maintained by
Merced Irrigation District for Merced County
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
Maintained by Madera County F.C. & W.C.A.
June 2003

1. **Condition of concrete control structures.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of stop logs and supports.**

   a. **There are no stop logs present.**

4. **Condition of revetments.**

   a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channels.**

   a. **None.**

6. **Vegetation around the control structures or in the channels.**

   a. **Dense vegetation in the channel downstream of the structure .**

7. **Comments:**

   a. **Remove the vegetation from the channel and around the structure.**

   b. **Fair maintenance.**

ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
Maintained by Madera County F.C. & W.C.A.
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.
Note the dense vegetation in the downstream channel.

ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
Maintained by Madera County F.C. & W.C.A.
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

FRESNO RIVER DIVERSION WEIR

Maintained by Madera County F.C. & W.C.A.
June 2003

1. **Condition of concrete weir structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of the diversion structure.**

   a. **Good.**

3. **Condition of the concrete abutments and wing walls.**

   a. **Good.**

4. **Condition of control gate and mechanisms.**

   a. **Good.**

5. **Condition of revetments.**

   a. **Good.**

6. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Minimal.**

7. **Vegetation around the structures or in the channel.**

   a. **Moderate growth in channel and around the structure.**

8. **Condition of gauging house and equipment.**

   a. **Good.**

9. **Comments:**

   a. **Remove the growth from the structure and channel.**

   b. **Fair maintenance.**

FRESNO RIVER DIVERSION WEIR
Maintained by Madera County F.C. & W.C.A.
June 2003

Looking north at the diversion weir.

Looking at the upstream side of the diversion weir.

BEAR CREEK DIVERSION STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Damage to both banks upstream of the structure.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

6. **Comments:**

   a. **Monitor and repair revetment as needed.**

   b. **Remove vegetation.**

   c. **Good maintenance.**

BEAR CREEK DIVERSION STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

OWENS CREEK CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete control structure.**

   a. **Good**

2. **Condition of abutments and wing walls.**

   a. **There are one-half inch cracks, four to five feet in length in the right and left bank abutments.**

3. **Condition of stop logs and supports.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

6. **Comments:**

   a. **This structure was in existence prior to the construction of the project and is a part of the Lower San Joaquin Levee District but is operated by Eastside Canal Company.**

   b. **Monitor and repair the cracks in the abutments as needed.**

   c. **Fair maintenance.**

OWENS CREEK CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the upstream side of the structure from the left bank.

Looking at the ½ inch crack in the right bank abutment on the upstream side. The left bank abutment is also cracked.

MARIPOSA BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of the concrete overflow structure.**
   a. **Fair, the concrete apron on the discharge side is damaged.**
2. **Condition of the abutments and wing walls.**
   a. **Good.**
3. **Condition of the control gates and mechanism.**
   a. **Good.**
4. **Condition of the revetment.**
   a. **Good.**
5. **Accumulation of trash and debris around the structure or in the channel.**
   a. **None.**
6. **Vegetation around the structure or in the channel.**
   a. **Minimal.**
7. **Comments:**
   a. **Fair maintenance.**
   b. **Repair the concrete apron on the discharge side of the structure.**

OWENS CREEK OVERFLOW STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

View of the two 72 inch slide gates at the intake side of the structure.

View of the discharge side of the structure into the Eastside Bypass.

MARIPOSA BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of radial gate and mechanisms.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of gate hoist equipment.**

   a. **Good.**

6. **Condition of revetments.**

   a. **Good.**

7. **Accumulations of trash and debris around the structure or in the channel.**

   a. **None.**

8. **Vegetation around the structure or in the channel.**

   a. **None.**

9. **Comments:**

   a. **All the equipment is tested and serviced prior to flood season each year. This structure is well maintained and is in excellent condition.**

   b. **Good maintenance.**

MARIPOSA BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

MARIPOSA BYPASS DROP STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Left wing wall has three-fourth inch separation at the joint but otherwise it is in excellent condition.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

MARIPOSA BYPASS DROP STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the downstream side of the structure.

View of the left bank wing wall and the three inch joint separation.

EASTSIDE BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of radial gate and mechanisms.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of gate hoist equipment.**

   a. **Good.**

6. **Condition of engine generator set.**

   a. **Good.**

7. **Condition of float wells and allied equipment.**

   a. **Good.**

8. **Condition of revetment.**

   a. **Good**

9. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

EASTSIDE BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

10. Vegetation around the structure or in the channel.

a. Minimal.

11. Comments:

a. All the equipment is tested and serviced prior to flood season each year. This structure is well maintained and is in excellent condition.

b. Good maintenance.

EASTSIDE BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the upstream side of the structure.

Looking at the downstream side of the structure.

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of San Joaquin River Structure.**

   a. **Good.**

2. **Condition of the abutments, wing walls, and bulkheads.**

   a. **Good.**

3. **Condition of control gates and mechanisms.**

   a. **Good.**

4. **Condition of the Sand Slough Structure (Parshall flume) and wing walls.**

   a. **Good.**

5. **Condition of the revetment.**

   a. **Good.**

6. **Accumulation of trash or debris around structure or in the channel.**

   a. **None.**

7. **Comments:**

   a. **This structure is tested and serviced prior to each flood season.**

   b. **Good maintenance.**

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

View of the control gates at the intake of the structure.

Looking at the outlet channel.

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking upstream at the Sand Slough Structure from the Washington Street Bridge.

FRESNO RIVER DRAINAGE STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drainage structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of control gate, mechanism, and flap gate.**

   a. **The control mechanism is bent.**

4. **Condition of revetment.**

   a. **Good.**

5. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Good.**

6. **Vegetation around the structure or in the channel.**

   a. **None.**

7. **Comments:**

   a. **The control mechanism for the gate needs to be straightened but otherwise, this structure is in good condition.**

FRESNO RIVER DRAINAGE STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the intake side of the structure.

Looking at the discharge side of the structure and the control mechanism.

ASH SLOUGH DROP STRUCTURE NO.1

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 1

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the abutments, stilling well and velocity dissipaters.

ASH SLOUGH DROP STRUCTURE NO. 2

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Sand has accumulated in the stilling basin.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 2

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the downstream side of the structure.
Sand is accumulating in the stilling basin.

ASH SLOUGH DROP STRUCTURE NO. 3

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**

   a. **Good, except the velocity dissipaters are covered with sand.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **This structure is in good condition but needs to have the sand removed from the stilling basin and from around the velocity dissipaters.**

   b. **Fair maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 3

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the partially sand filled stilling basin.
The velocity dissipaters are covered by sand.

ASH SLOUGH DROP STRUCTURE NO. 4

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **What can be seen is in good condition, but a seasonal sand dam is in place backing up water for irrigation purposes on the upstream side.**

2. **Condition of concrete abutment wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **Bamboo growing along right wing wall.**

6. **Comments:**

   a. **The seasonal sand dam on the upstream side is for irrigation purposes and can be easily breached or washed out in the event of high water.**

   b. **Remove bamboo.**

ASH SLOUGH DROP STRUCTURE NO. 4

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the downstream side of the drop structure and the seasonal sand dam.

EASTSIDE BYPASS DROP STRUCTURE NO. 1

(Upstream)
Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

EASTSIDE BYPASS DROP STRUCTURE NO. 1

(Upstream)
Maintained by
Lower San Joaquin Levee District
June 2003

Looking north at the stilling basin and the velocity dissipaters.

EASTSIDE BYPASS DROP STRUCTURE NO. 2

(Downstream)
Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of concrete structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

   b. **It has been noted in past reports that concrete spalling exists on the floor of the stilling basin. This was first noted in 1969.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation and debris around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

EASTSIDE BYPASS DROP STRUCTURE NO. 2

(Downstream)
Maintained by
Lower San Joaquin Levee District
June 2003

Looking north at the structure.
Road 9 is in the background.

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

1. **Condition of the San Joaquin River Control Structure.**

   a. **Good.**

2. **Condition of the Chowchilla Canal Bypass Structure.**

   a. **Good.**

3. **Condition of the abutments and wing walls.**

   a. **Good.**

4. **Condition of the radial gates and mechanisms.**

   a. **Good.**

5. **Condition of the gate hoist equipment.**

   a. **Good.**

6. **Condition of the engine generator set.**

   a. **Good.**

7. **Condition of the float wells and equipment.**

   a. **Good.**

8. **Accumulation of trash and debris around the structures or in the channel.**

   a. **None.**

9. **Vegetation around the structures or in the channel.**

   a. **Minimal.**

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE
Maintained by
Lower San Joaquin Levee District
June 2003

10. Comments:

a. All the equipment is tested and serviced prior to flood season each year. This structure is well maintained and is in excellent condition.

b. Good maintenance.

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE

Maintained by
Lower San Joaquin Levee District
June 2003

Looking at the upstream side of the San Joaquin River structure.

Looking at the downstream at the San Joaquin River structure.

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURES

Maintained by
Lower San Joaquin Levee District

Looking at the upstream side of the Chowchilla Canal Bypass structure.

Looking at the discharge side of the structure into the Chowchilla Canal Bypass.